عنوان مقاله:

On the distance from a matrix polynomial to matrix polynomials with two prescribed eigenvalues

محل انتشار:

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خلاصه مقاله:

Consider an n × n matrix polynomial P(λ). A spectral norm distance from P(λ) to the set of n × n matrix polynomials that have a given scalar μ ∈ C as a multiple eigenvalue was introduced and obtained by Papathanasiou and Psarrakos. They computed lower and upper bounds for this distance, constructing an associated perturbation of P(λ). In this paper, we extend this result to the case of two given distinct complex numbers μ۱ and μ۲. First, we compute a lower bound for the spectral norm distance from P(λ) to the set of matrix polynomials that have μ۱, μ۲ as two eigenvalues. Then we construct an associated perturbation of P(λ) such that the perturbed matrix polynomial has two given scalars μ۱ and μ۲ in its spectrum. Finally, we derive an upper bound for the distance by the constructed .perturbation of P(λ). Numerical examples are provided to illustrate the validity of the method

کلمات کلیدی: